

the pressure and/or lowering the reactor temperature to effect at least partial removal of coke from the catalyst.

Turning now to independent claim 1, it will be noted that the claim has been amended to recite the use of a macroporous solid catalyst having a specific average pore size, and also to call for carrying out the reaction conditions at near- or supercritical conditions *relative to the reactant mixture*. In general, if a heterogeneous chemical reaction is carried out at near- or supercritical conditions relative to the *reaction mixture* (i.e., the average composition in the reactor containing reaction products), all of the species in the reaction mixture will be in a single homogeneous phase, effectively preventing the separation of products. However, when using the claimed method wherein near- or supercritical conditions relative to the *reactant mixture* (i.e., the starting reactants fed to the reactor) are employed, certain of the reaction mixture species will drop out of solution and will tend to collect in the relatively large pores of the macroporous catalyst which facilitates ultimate separation of the reaction mixture products.

Claim 1 and all claims dependent therefrom were rejected under 35 U.S.C. §§ 102/103 on the basis of Patent No. 5,907,075 in view of Nos. 4,056,578 and 5,491,278. The principal reference in all cases is the '075 patent. However, a review of this disclosure will confirm that there is no teaching or suggestion therein of employing a macroporous catalyst as herein claimed with the specific average pore size. Similarly, in all instances the '075 patent describes use of near- or supercritical reaction conditions relative to the *reaction mixture*. The secondary references in no way deal with or teach either of these claimed features. In short, none of this art recognizes or comes to grips with the present invention as claimed.

The remaining independent claim 16 has not been amended. It will be noted that the claim calls for the step of regenerating the catalyst by interrupting the introduction of at least one reactant followed by elevating the pressure within the reactor and/or lowering the reactor temperature. The principal reference cited against claim 16 was the patent to Angstadt No. 5,491,278. This reference describes a flashing process wherein the reactor pressure is *reduced* or the temperature is *increased* to volatilize the reaction mixture. Thus, the teachings of this reference are precisely the opposite of what is claimed in claim 16. While Angstadt teaches that the pressure should be reduced or the temperature increased, claim 16 recites that the pressure should be increased and/or the temperature decreased. This situation is exemplified by the following grid.


	Reactor Pressure	Reactor Temperature
Present Invention	Elevate	Lower
Angstadt	Decrease	Increase

Clearly, an obviousness rejection cannot be made out under these circumstances. Angstadt's teaching of a precisely opposite process cannot be used to render obvious the presently claimed process. And the Examiner's suggestion that it would have been obvious to select appropriate temperature or pressure conditions during the regeneration period is an improper hindsight reconstruction of the art. Any viable obviousness rejection must be predicated upon a suggestion in the art to make a proposed combination. Here, Angstadt teaches the opposite process as now claimed, and nothing in the Subramaniam reference teaches or suggests that the Angstadt conditions be radically altered. Therefore, a withdrawal of the rejections of claims 16-20 and 25-31 is solicited.

Any additional fee which is due in connection with this amendment should be applied against our Deposit Account No. 19-0522.

In view of the foregoing, a Notice of Allowance appears to be in order and such is courteously solicited.

Respectfully submitted,

By 

John M. Collins, Reg. No. 26,262  
HOVEY WILLIAMS, LLP  
2405 Grand Boulevard, Suite 400  
Kansas City, Missouri 64108  
816/474-9050

ATTORNEYS FOR APPLICANT(S)